Washington SCHOOL of WORLD STUDIES

ENVIRONMENTAL SCIENCE

SCI205 — 1.0 Credit

Course Description

This course is an upper-level science course. Environmental Science is a multidisciplinary field that draws from all the sciences, in addition to other fields. This course will help students better understand the relationship between humans and the world in which we live. Environmental science applies the principles of pure sciences such as biology, chemistry, ecology, geology, and more.

Course Objectives

After completing the course, students will be able to:

- Describe human interaction and its impact on the environment.
- Explain the various sciences that contribute to the study of environmental science.
- Describe the relationships between all organisms within an ecosystem.
- Explain the concept of biome as a region characterized by a specific climate, plant life, and animal community.
- Identify the properties of populations and how they affect and respond to their environment.
- Recognize the diversity of life on Earth (biodiversity).
- Understand the value of water and its influence on the environment.
- Identify the environmental impact of pollution and how humans are working to combat it.
- Identify the agricultural methods used to feed the world's population and describe the related difficulties in providing food to the world.
- Describe the various types of energy resources and how they are used by humans, including new types of energy technologies.
- Explain how human health is affected by environmental conditions.
- Describe the ways that can individuals can influence the environment through their actions.

Prerequisites

None

Course Length

Two semesters

Required Text

Environmental Science by Karen Arms, 2006, Holt, Rinehart and Winston. ISBN- 0030390737

Course Outline

Semester 1

Introduction to Environmental Science

- Science and the Environment
- Research Paper
- Tools of Environmental Science
- The Dynamic Earth

Ecology

- The Organization of Life
- How Ecosystems Work
- Biomes
- Aquatic Ecosystems

Populations

- Understanding Populations
- The Human Population
- Biodiversity

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Semester 2

Water, Air, and Land

- Water
- Air
- Atmosphere and Climate Change
- Land
- Food and Agriculture

Mineral and Energy Resources

- Mining and Mineral Resources
- Nonrenewable Energy
- Renewable Energy
- Waste

Our Health and Our Future

- The Environment and Human Health
- Economics, Policy, and the Future